

PRE-APPEAL BRIEF REQUEST FOR REVIEWDocket Number
23085-07810

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Signature /Narinder Banait/ _____

Typed or printed
nameNarinder S. BanaitApplication Number
10/727,699Filed
December 3, 2003First Named Inventor
Avetik Harutyunyan

Art Unit

1793

Examiner

Edward M. Johnson

This request is being filed with a notice of appeal.

I am the

☐

applicant/inventor.

/Narinder Banait/☐

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.

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Registration number if acting under 37 CFR 1.34 _____

June 11, 2008 _____
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒*Total of 1 of 1 form is submitted.

ATTACHMENT TO THE
PRE-APPEAL BRIEF REQUEST FOR REVIEW

Pre-appeal review is requested because the rejections of record are clearly improper and without and factual or legal basis. Applicant respectfully requests that the panel indicate claims 1-5, 7, 8, 10-18, and 38-49 recite allowable subject matter.

I. Status of the Claims

Claims 1-5, 7, 8, 10-18, and 38-49 are pending and stand rejected in this application. In a Response filed after to the Final Rejection, Applicants did not amend the claims. The Examiner mailed an Advisory Action on April 22, 2008 maintaining the rejections.

II. Claim Rejection: Claims 1-8, 11-28, and 31-41

Claims 1-3, 5, 7, 8, 10-18, 38-39, and 41-49 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No. 4,663,230 to Tennent.

This rejection is clearly in error because the Tennent fails to disclose entraining the catalyst in inert gas as claimed by the applicant. In the Final Office Action, the Examiner acknowledges that Tennent does not disclose this element of the applicant's claims, but stated that it would have been obvious to one of ordinary skill in the art because Tennent discloses contacting in the presence of hydrogen.

Tennent at column 6, lines 13-20 states that the catalyst is deposited on refractory supports, such as alumina, carbon, quartz, silicates, and aluminum silicates, and at column 6,

lines 20-22, states that the refractory supports should be thin films or plates which can be easily moved into and out of the reactor. Further, Tennent in Examples 11-33 discloses the synthesis of the fibrils. In all of these examples, the supported catalyst is placed in the reaction chamber using refractory supports, and is not entrained in an inert gas. For example, Example 11 states that the “[c]atalyst prepared according to the method of Example 1 was ultrasonically dispersed in water and transferred to a ceramic boat. The boat was placed in the center of a 1” Vycor™ tube in an electric furnace at room temperature.”

Tennent thus specifically teaches away from entraining the catalyst in an inert gas by teaching that the catalyst should be supported on a thin film or a plate for ease of removal. In the Examples, the catalyst is placed in a ceramic boat. Would one of skill in the art really attempt to float a ceramic boat using a stream of hydrogen gas?

Further, the Examiner appears to have confused the particle size of the supported catalyst claimed by the applicant with the size of the product produced by Tennent which are not the same. The applicant’s method of claim 1 provides a catalyst of metal nanoparticles, wherein the catalyst is supported on a powdered oxide substrate having a particle size of 0.5 μm to 5 μm . At no time does Tennent disclose that the catalyst is supported on “a powdered oxide substrate having a particle size of 0.5 μm to 5 μm .” Instead, as discussed above, Tennent’s catalyst is supported on a ceramic boat, a thin film, or a plate that can be moved in and out of the reaction chamber. The product produced by the process of Tennent is nano-sized carbon fibers. However, the particle size of the powdered oxide substrate used to support the catalyst and the size of the product produced are independent elements. The Examiner has incorrectly read the nano-sized carbon fibers disclosed by Tennent to mean that this suggest a range of 0.5-5 μm for the catalyst used to make the product.

Finally, the independent claims 1 and 38 recite that the nanostructure is single-walled carbon nanotubes. Tennent discloses the synthesis of carbon fibril and not single-walled carbon nanotubes. Thus, Tennent does not disclose all the elements of the applicants' claims as amended. Therefore, a prima facie case of obviousness is not made. Withdrawal of this ground of rejection of claims 1-3, 5, 7, 8, 10-18, 38-39, and 41-49 is respectfully requested.

The rejection of claims 1-8, 11-28, and 31-41 cannot stand.

III. Claim Rejections: Claims 4 and 40

Claims 4 and 40 were rejected as 35 U.S.C. 103(a) as allegedly being unpatentable over Tennent further in view of U.S. Patent No. 6,221,330 to Moy *et al.*

There is no motivation to modify the references or combine the teachings to produce the claimed invention. Tennent discloses the use of supported catalyst for the synthesis of carbon fibrils. Moy at column 2, lines 65-67 states that "supported metal catalysts are inherently disadvantageous, as the support is necessarily incorporated into the single-walled carbon nanotube formed therefrom." Further, at column 4, lines 4-5, Moy states that their method for forming single-walled carbon nanotubes uses unsupported catalysts. Thus, Moy teach away from using the supported catalysts to synthesize single-walled carbon nanotubes. Therefore, a skilled artisan would not be motivated to combine Tennent with Moy.

The rejection of claims 4 and 40 as being obvious over Tennent further in view of Moy is, therefore, clearly erroneous.

IV. Summary

Based on the foregoing, Applicant respectfully submits that each of the pending rejections suffers from a clear deficiency in the prima facie case asserted in support of the rejection. Accordingly, Applicant requests that the rejections of claims 1-5, 7, 8, 10-18, and 38-49 be withdrawn.

Respectfully submitted,
Harutyunyan

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